HIGH RESOLUTION STABLE ISOTOPE PROFILES OF HOLOCENE BIVALVE SHELLS FROM THE DOMINICAN REPUBLIC

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Various species of bivalves from a pristinely preserved, subaerially exposed Holocene coral reef in the Enriquillo valley, Dominican Republic were sampled for stable carbon and oxygen isotope and trace element analysis. The reef was deposited in a shallow, low energy embayment and the bivalves were taken from a location with largely *in situ Acropora cervicornis* coral in a carbonate mud matrix. Coarse resolution $\delta^{18}O$ and $\delta^{13}C$ profiles, and Mg/Ca and Sr/Ca ratios of bivalves were used to detect long term changes in the depositional environment throughout the section while high resolution $\delta^{18}O$ and $\delta^{13}C$ profiles of *Tellina sp.* shells were constructed to function as "snapshots" of the climate during key periods. The reef was deposited between ~9.3 and ~6 k.a., when insolation was greater in the northern hemisphere than today and there was increased seasonality in the Caribbean region. Oxygen isotope values from *Barbatia tenera, Barbatia candida, Arcopsis adamsi, Barbatia domingensis* and *Tellina sp*. indicate a significant evaporative component to $\delta^{18}O$ variability throughout the seasonal cycle. The low resolution data implies a transition from a cold and dry climate at ~9 k.a. to a wet and warm climate at ~5.5 k.a. Primitive modeling demonstrates that individual $\delta^{18}O$ ranges are too large to be explained by temperature or salinity variations alone.